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RELATIONS

—OF—

COLORADO

—TO—

Pulmonary Consumption.

—BY—

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DENVER.

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Pulmonary Consumption

IN COLORADO.

UPON re-assembling in the afternoon of the second day of the late session of the Colorado Medical Association, the following paper, being called for by the President, was read by Dr. MASSEY.

Mr. President and Fellow-Members :

As far back as thirty years and more ago, small parties were occasionally gotten up in cities on our Atlantic sea-board for excursions "over the Rocky Mountains," for the benefit of the health of some cherished member of family or society. The only disease for the amelioration of which such journeys were projected, was recognized then, as now, by the expressive words, Pulmonary Consumption. Fitting out at Pittsburg or St. Louis, and sometimes even at Baltimore, on horseback and with only the usual accoutrements of the saddle, an absence of many months brought back some restored to health and usefulness, and the corpses of others for whom the undertaking had been deferred too late or its necessities were too arduous. The benefits received by the fortunate were not credited to localized climatic influence; but to "roughing it," on horseback, in the open air. The old "caravans" that used to carry on all the trade, in annual trips between St. Louis and Santa Fé, had many a similar experience to tell. From qualified surgeons of government troops came the first professional notices of the exceptional, remedial, peculiarities of the air of these mountains about us. The "overland" struggles to reach California contributed nothing but vague reports to the stock of medical information, so impetuous was the rush for

gold. Since 1859—so determinate were the discoveries of mineral wealth, that—more than a hundred thousand people have been attracted to a permanent residence along the slope of the mountains inclosed within the Territorial limits of Colorado; and many thousands more come to sojourn for months, not in quest of silver, but of health and life. The reputation of Colorado for generous, if still undefined, health-giving properties, is co-extensive with the Union; based not upon prescience of physicians, but upon the appreciation of facts of individual experience.

And now hundreds of invalids can be daily seen, in quarters or upon the streets, whose anxious countenances tell the story of the object of their coming. It is painful to the healthy but sympathetic, to overhear invalids questioning one another as to the particulars of their condition. And unfortunately victims of all manner of disease are allured hither by uneducated testimony—to many of whose cases neither the experience nor the philosophy of our climate are applicable. Even our medical colleagues send patients here, or permit them to come, without any other professional guides than those gleaned from personal correspondence or the general press.

That no responsible effort has hitherto been made in the direction most needful and desirable to the profession elsewhere—that of local medical testimony—is attributable fairly to the fact of this being but the second anniversary of the organization of a "Medical Association" in Colorado. Such, I take it, has been the inspiration prompting the suggestion, by some of the most respected members of this association, of the contribution which it is now, with diffidence, proposed to submit.

The elements of that diffidence are sufficiently suggestive to prove its sincerity and excuse its expression. The clash of the new pathological investigations and conclusions, now exciting the most brilliant medical minds of Europe and to a large extent subversive of the pulmonary basis of the instructions of all since the discoveries of Lænnec, must receive some passing respect. To

the facts of "rational" investigation, of clinicism, to which consumption owes the demonstration of its remediability—confirmed by subsequent researches among the dead of other diseases, in this country and in Europe—if the attempt is made to add the tribute of our local atmospheric influences, the profession everywhere stands ready for its willing but most persistent interrogation. And the movements, doubtless, of thousands of invalids, all over the land, are dependent upon the impressions absorbed by their medical advisors as to relative advantages of climatic localities.

But an encouraging word is often a great relief to an oppressive sense of responsibility. And in spite of the dazzling progress in pulmonary pathology within the last few years, its chief factor and most brilliant representative, Niemeyer, admits that these "new discoveries have been of but little use to therapeutics"; and that "the smallest well-authenticated fact in therapeutics is of profound importance"; and hopes that even "the contents of my book"—devoted as it is strictly to pathological research—"may aid clinical investigation in pursuing more and more the path by which alone the establishment of therapeutic facts is to be obtained." Colorado is far removed from a field tempting competition in histological investigation; but splendid and growing are its advantages and inducements to add to the wealth of clinical experience.

If in yielding to the opinions of others whose judgment is valued, illustration of the relations of Colorado to disease is confined to consumption, it is with the confidence that the type of that disease most prevalent and sad, will be sufficiently appreciated by the profession everywhere for direction of their endeavors in the management of other maladies requiring analogous constitutional remedies. Brief reference will be sufficiently demonstrative that the results of the very latest pathological investigations, instead of conflicting, agree with the teachings of inductive, clinical, observation; that modern therapeutics is really in advance of

modern pathology, having thus on its side the safety inculcated in the foregoing brief quotations. Thus led into the sanitary requirements of the consumptive, the benignant relations of Colorado weather, of its atmospheric and material phenomena, will not be of difficult adjustment by physicians anywhere to subjects of disease in their care.

It may be in the course of positive demonstration that Laennec, his followers, and all of us raised in that school, have been in error in limiting the origin and expression of pulmonary consumption to the specificism of tuberculosis. But even with successful demonstration of the error and the consequent enlargement of our pathological range, the discovery and value of the stethoscope are not diminished in importance. It may be that the very name of tuberculous consumption may become so subordinated as to be almost lost in that of chronic, catarrhal or interstitial pneumonia. If the name or the pathological doctrines of the one shall prove to be of as little service at the bedside as the other, the change is a matter of practical indifference. If "tuberculous neoplasm" is to retire before "pneumonic caseous degeneration," the latter has as yet given no sign of the least modification of the treatment begotten by neither, but by results of clinical scrutiny.

Should there be apprehensions that the teachings of Niemeyer, Virchow and their school of modern pathologists may revive the antetubercular system—by "translating," as Dr. Walsh expresses it, "the doctrines of Broussais into microscopical language"—such fears are set at rest by established principles of practice; and most directly by the intervention of what I will venture to call Todd-ism, which still grows and flourishes. After the discoveries of Laennec, as well as under the inspirations of Broussais, consumptive patients were consigned to the balmy airs of Madeira, Florida, or the shores of the Mediterranean; to antiphlogistic regimen, low diet, leeches and counterirritants. Under the existing current of medical experience, they are com-

mended to high and bracing altitudes, to nutritious food, brandy smashes and whisky punch; so that reversion is most improbable to old treatment even under the shield of inflammatory design.

I cannot see how the establishment of the new pathology can even interfere with the generally entertained diathetic and hereditary origin of consumption. The hereditariness, the diathesis of even acute diseases of various kinds—as gout and rheumatism, for example—are generally acknowledged. Why a tendency to low grades of subacute or chronic inflammatory types cannot have similar origin and history it is difficult to imagine, even when stimulated into action by accidental catarrhs or pneumonias. In this direction there certainly can be no specific difficulty in reconciling ourselves to the “new views.” Even inoculation comes in to help us however on this score. If the experiments of Villeman, Lebert, Fränket and Sanderson have demonstrated the fact that tubercle can be inoculated, they have also proved that other fact that inoculation with the products of ordinary inflammation may infect the blood so as to give rise to a general outpouring of gray granulations in the lungs and other organs. If inoculable, why not transmissible? Surely no argument can be found here for the rejection of the “new views” and the retention of the old.

Finally, “the tendency to death” is the same, whether through lungs choked with caseous degeneration from pneumonic or tuberculous origin. The offices of the practitioner seem to commence where those of the pathologist leave off; and the only ill effect to be anticipated from the pathological discussion, is that it may quarantine developments of clinical observation.

The new pathology may be the subject of universal acceptance by scientific physicians; but as to its influence on every day practice, that has to be determined; and although every physician looks to pathological investigations, he is forewarned by much history to respect them in practice about as the surgeon respects the “director” in the service of the bistoury. Jackson Cummins

of Cork, in the richness of his teachings and his judgment, is honored by his testimony that "the results of such investigations must be confirmed by clinical observation;" and that "every practitioner is more likely to be unbiassed in the opinion he forms than those accomplished men who view clinical facts through their own experimental observations."

The general practical acceptance of the doctrines through which only, and at last, consumption has been wrested from the list of diseases deemed incurable, is demonstrated by the almost unanimous adoption by the profession of the same general line of treatment, including medication, diet, hygiene and air; differences in confidence, success and reputation of practitioners depending greatly upon their less or greater abstraction from the multiplicity of ailments connected with a general business practice of every day; upon the less or greater devotion to this class of chronic invalids with the pertinacity and patience so absolutely essential for any approximation to successful management. Whatever may be accepted in reference to local morbid operations concerned in consumption, and whether its development has been hereditary, diathetic or accidental, the necessity for its constitutional consideration—either to check its ravages or to enable its victims to withstand them—addresses itself as having been established by a cumulative experience of thirty years and which no new pathological conclusions are likely to disturb.

In fact the new pathology strengthens the conclusions of clinicism. No more complete tribute is paid to this fact than by Niemeyer himself. He appears only to want it understood that the *rationale* of the sthenic management of phthisis was not entirely clear until "the recognition of the fact that the disease depends, as a rule, upon inflammatory action, and is only now and then due to neoplasm!" His directions of treatment follow that charted by clinical deductions, pathological dialectics to the contrary notwithstanding. Whether of inflammatory or constitutional tubercular

origin—whether acute or chronic—whether inherited or accidental—whether in the young or the old—whether in the normally cachectic or the robust—whether occurring in the scions of the rich or the natural descendants of the poor—whether afflicting the sons of the tropics or of the higher latitudes—from whatever precedent or cause, and through whatever pathological channel—of deposit or infiltration, of inflammation or of neoplasm—“the tendency to death” from consumption is alike in all—increasing debility and waste, whether operating rapidly because of the incidents of inflammation, fever, hæmorrhage or diarrhœa, or through the more gradual processes of irritation, non-nutrition, mal-assimilation and general cachexia. And the indications of treatment involve the protection of the complications and the conservation and bolstering of the general system. It is not necessary, in this presence, to go into any details other than those that naturally may be illustrative in connection with the relations of Colorado to the disease.

No element in the treatment of pulmonary consumption has been so impressive a study as the effect of climate. It is true that it is professionally now confessed that consumptives sometimes get well at home—wherever home may be; that consumption is oftentimes curable anywhere by devoted attention to all the devices for improving nutrition and husbanding strength. But to no aid in the treatment of a disease so formidable, and which so often thwarts our most complete engineering, has the medical world turned more inquisitive attention than to the effect of atmosphere. Its estimated paramount importance, as well as the immense number of consumptives in the world, are both well illustrated by the abundance and variety of places of resort to which they are commended by their own and their physicians' hopes, and the multitude who pant for health at so many different localities. A page would not suffice for the designation of those in Europe alone. The zephyrs of almost every isle in the sea, have been wooed. The steppes of Asia and the pampas of South

America have been experimentally questioned. In our own land Florida has been invoked in their interest, and Minnesota has responded with most authentic and extensive records of restored health. It is a little inexplicable, but it is nevertheless true, that those of our profession who discarded Broussaisism and devoted their lives to the doctrines of Lænnec and tuberculosis consigned their patients the balmy airs of the south. The cautiousness and dubiousness with which both the tubercular and the pneumonic teachers consent to the beneficence of elevated regions is striking, almost amusing. For instance: Niemeyer dubitively observes that "a continued abode in elevated regions, *where without any apparent reason*, consumption is rare, is also advisable for consumptives, when their disease depends upon chronic pneumonia;" and Prof. James Henry Bennet, representative of at once the tubercular and the clinical schools, solicitously suggests that the few hundred feet lower elevation of Samaden, in the Engatine valley, in eastern Switzerland, is preferable to that of St. Moritz, 6100 feet above the level of the sea. The American discovery of the pneumonic salubrity of elevated regions, appeals directly to the purely clinical philosophy of the one and the mixed clinical and pneumonic philosophy of the other.

The repute attained by Colorado for its influence in the relief or cure of various diseases, prominently consumption, had no inception, as already suggested, and has no existence connected with histologists, minute anatomists and experimentalists. In fact physicians have had nothing to do with the manufacture of its sanitary renown. Springing from facts discerned by the afflicted and their friends, its therapeutics has a claim to that investigation which "is the only rational and proper one for the study of that or any other department of natural science." I shall dismiss the fortified foundation of this repute very briefly. Judgment as to its correctness stands confessed in the observation of every one in this hall, whether members of our Association or intelligent

citizen-observers of our proceedings. It marshals its revitalized witnesses on many squares of this city and in every town and hamlet for two hundred miles of the eastern slope of the mountains. Elastic and ruddy health stamped upon features which told but a few months before the story of but the anticipation of the shroud and the grave—these are sponsors eloquent of *facts* about which there is no nutriment for a single parasite of doubt. When I am told the history of consumptives by themselves; when they repeat what their home-physicians have said—many of them among the most honored in the land; when the wasted frame, the hectic flush, the hacking or cavernous cough; when the expectoration profuse, the night sweats, the hæmorrhages, the diarrhœas, the exacerbating fever; when these and the shapes of other familiars are réhabilitated before me in persons now of splendid health—my humble tribute must be at the service of the correctness of the sanitary fame of Colorado. That such a record has led to exaggerations, perversions, and consequent evil to many, are incidents for which the facts cannot be held responsible.

There is no mysterious agency in the climatic and material developments of Colorado, in reference to their influence upon disease. They simply furnish what, in a vast number of cases, is demanded by the philosophy of experience—especially in connection with phthisis. It would be cruel, unmanly and unjust to exaggerate, by a single word or line, the remedial virtues of Colorado of which residents are witnesses. The solemn obligation not to mislead physicians of other localities in the management of their patients, is most impressive; but yet they rightfully claim from us every possible assistance of thought, of fact, of description. If Colorado in its surroundings is adjusted to the most advanced requirements of the healing art, in reference to some of the gravest afflictions of humanity, the profession everywhere will see no mystery in the fact, but a plain illustration of the soundness of the principles by which, in other respects, their practice is guided.

Among the earliest professional references that I have stumbled across in reference to the bearings of the physical eccentricities of this peculiar geographical and meteorological region upon consumption and congeneric affections, is that of Dr. Coolidge in his statistical report of the sickness and mortality of the United States Army, which I see quoted in Condie's edition of Watson of 1858. In that Report, probably made some years previously, Dr. Coolidge suggestively remarks that "the climate of those broad and elevated table-lands which skirt the base of the Rocky Mountains on the east, is especially beneficial to persons suffering from pulmonary disease or with a scrofulous diathesis." "The reports from the line of posts stretching from the Upper Platte through New Mexico to the Rio Grande give a smaller proportion of cases of pulmonary disease than those of any other portion of the United States. The air in this region is almost devoid of moisture; the depressing heats of eastern summers are never felt." Among the conclusions of Dr. Coolidge are, that, "*temperature*, considered by itself, does not exert that marked, controlling influence upon phthisis which has been attributed to it;" and that "the most important atmospheric condition for a consumptive is dryness!" There is much in this singularly terse description of the climate of Colorado which physicians will recognize as apposite to their professional requirements of to-day; and no representation of the exceptional climatic and material peculiarities of Colorado, can be more directly or conveniently approached or illustrated than through their observed relations to the very class of diseases above referred to.

If, with diffidence, some description of the remedial relations of Colorado to phthisis is undertaken, that diffidence will be excused for retiring in the presence of the object of its interest. It is well known here that letters from Colorado, written for many a newspaper of this and other countries, by tourists and sojourners, all seem exuberant, enthusiastic, exaggerative—some of my own included. Acknowledging this to be the fact, and that universal

is that characteristic of the first impressions of the climate and scenery of this Territory, it is no stretch of fancy to concede similar impressions to the consumptive as to the healthy. And right here, upon the threshold of any attempted illustration of the remedial virtues of this region, we are met by a blessing to the consumptive, the first spangle of sunlight to a worn frame, the first fillip toward restoration, and a guiding star to the physician to whose care may be committed the further conduct of the case. The first impression being thus of exhilarative, of champagne characteristics, we shall see, further on, its advantages and disadvantages—for of the latter it has some.

It is in no part of the proof of the benefits of Colorado to consumptives that they are regulated by the thermometer; and when Professor Bennet complains that his American patients will not stay still at Mentone, watching their symptoms and their thermometers, but will go off on excursions to Switzerland and France, the American expression of "how natural" explains the fact. And when that distinguished authority "ardently hopes" that "my American colleagues will find some locality in their mountain region, accessible to New York, for a cool summer residence, where the minimum in July and August would be between 50° and 60° Fah. and the maximum between 60° and 70°," it may not be courteous but it is necessary, from this "mountain region" perfectly "accessible 'by rail' to New York" and yet two thousand miles away, to decline the commission. While there are hundreds of living facts demonstrative of the curability of phthisis in Colorado there are *none* to prove that those cures have been effected by any thermometric boundaries. Often up in the nineties, it is difficult to find any one who thinks that it is hot; down to about zero occasionally, the fact is not appreciated sufficiently to keep anybody within doors. The days of heat and the days of cold are limited to but one, two or three at a time; and when it is cold it is clear and dry; when warm it is not with a sweltering heat. If to stimulate the vital powers; to add tolerance

and tone to digestion; to quicken the absorption of morbid deposits by the circulation of blood renewed by new air; if these are among the requirements of hope in consumption—which all admit—I can imagine nothing more philosophically or therapeutically adverse to those essentials than thermometric confinement. The adjuvants of cure in Colorado are distinctly those of nutriment; the outdoor inspiration of pure, mountain, sunlit air, depurating the vital current and stimulating the organs of primary digestion to receive and dispose of the nutritious animal food of the mountain ranges. “If patients,” says Professor Bennet, “can be brought to eat, to digest and assimilate they have a chance of recovery. If they cannot their chance is indeed slight.”

With an atmosphere, clear, dry, cheerful, electric, Colorado has an average of three hundred and twenty-four bright, beaming, illuminated mornings, inviting to early rambles and a hearty breakfast. This average is thus reduced because every fifth or sixth winter is longer than the balance. There are scarcely a dozen days in any year that forbid morning and afternoon strolls or drives. The bearings of such a statement must address themselves to the profession. If we choose to skip from morning to bedtime, we find every night, during all the round year, pledged to cool and blanketed slumber. If it is preferred to linger with the day, there is an emotional scenery with which the eye never tires; there are rides and drives on roads solid and dustless, of undulations and pictures; there are points of interest to visit by rail from a few to a thousand miles; there are different elevations, accessible in a few minutes or a few hours, one more suitable than another for a residence of days or weeks for special indications. Situated as is Denver, but a dozen miles from the foot of mountains sweeping the range of vision for three hundred miles, whose loftiest summits are forever capped with snow—these exert a sheltering influence in winter and their breezes mollify the heat of summer. There are birds and fowl, deer, antelope, bear and buffalo, to hunt and to eat; and there is “the milk of animals

which pasture in the mountains" the dietetic importance of which is so eloquently alluded to by Niemeyer. Away above every vestige of "malaria," animal and vegetable decomposition is slow, and the sense is unfretted by a single one of those thousand smells for which the city of Cologne is famed. "Bedsore" are unknown in Colorado, the exhilarating climate opposing long confinement to bed. Wounds and surgical operations heal kindly, suppuration and ulceration being rare and limited.

I have often thought that our romantic electric demonstrations might have a magic or mysterious influence upon the consumptive, as they have upon the healthy. There is a something that makes nerve, muscle, blood and brain active and hopeful; that invokes the healthy to be superior to adversity and the invalid to be spirited to the last. No one can watch the panoramic tableaux of the lightnings of our spring months without delight and exhilaration; and I have sat at my office door, for an hour and more in August, with consumptive men, as the sun declined beyond yon western range, watching the effect upon them of the varied display of flashes "as all along from peak to peak" they would pass or answer back; and have wondered if such an hour was not more beneficial than the most sensible advice or most benignant drug. Our rains come not down in drizzles, but in sheets. When it blows, we have a brief hurricane. When it thunders, it is with no voice of apology. It is hardly reasonable that such atmospheric phenomena should be without effect upon the spirits and bodies of men.

Even with the imperfect outline of Colorado peculiarities thus attempted, it is thought that sufficient has been indicated for the judgment of physicians as to what classes and what grades of invalids to commend to their influence, and what to withhold. As before intimated there is nothing like the mystery surrounding the hygienic powers of Colorado as there is about the action of our most valuable medicines; and yet being potent, just as

discreet and decisive management is required as in that of the most prominent and useful remedies to which we resort. Keeping pulmonary consumption still before us, as the most momentous, the most exaggerated, type of disease for which Colorado has proved itself most benevolent and useful, it is as necessary to invest ourselves with its applicability to the cases committed to us as with that of any medical or surgical interposition in other physical misfortunes. If otherwise, the subject of our art may not only suffer, but that which is beneficent in itself may get a disrepute not deserved and thus shut off life to many who would otherwise woo and win it. Examples are familiar upon whose "through tickets" from Saint Louis to Denver most opportune would have been the prophetic stamp of, "it is too late!" It has happened that some have come but to meet death a little sooner than at home; and occasionally death has claimed its victim even on the return cars, and again waited but for a few hours' reunion with family. Marvelous would it have been had there been no such cases, illustrative at once of the positive qualities of Colorado's atmospheric peculiarities and the vague and irresponsible information about them. The rapid transit to Denver with its rarefied air, as represented by five and a half thousand feet of altitude above what lungs have been raised to breathe, is often a successful venture with asthmatics; to get here safely and be quiet for awhile is the only sound starting-point for the consumptive. And yet, without advice and without judgment, some, after not receiving the same benefit from each inspiration that was expected at home from each tablespoonful of patent medicine, hurry off to points five thousand feet higher, as if thinking to jerk themselves into health. Whereas if a year, with all its round seasons—and the winter months are generally considered even more favorable, as far as mere climatic effect is concerned, than even the summer which has its sportive advantages however—if a year's residence gives reasonable assurances of reestablished health to him upon whom consumption has been fastened for say a year or

more, most heartfelt should be his self-gratulation. In some cases these reasonable assurances are reached in but three or four months; but these are exceptions, and generally are represented in cases of accidental consumption, of not long standing, and in constitutions of the young and spirited.

While some cases, braced and stimulated from the first, by care and prudence, never recede but go on gradually to reestablished health, it is of experience that the large majority of consumptives, whether in what are stethoscopically known as the second or third stages, after a brief improvement quite suddenly get worse, weaker and of course dispirited. This—the natural exhaustion after stimulation—is the critical period for patient and physician; and its duration is irregular. Of this class are those who becoming hopeless themselves and their physician discouraged, leave for the chances of home again; while others who from poverty, pertinacity or prudence of the physician and because of the very repose necessitated, begin safely the upward turn toward health.

The very first, prime, leading indication, then, in the cases of consumptives arriving in Colorado, is, that for weeks, they shall be kept **RESTFUL**, comfortable and happy! It is a strain sufficient upon the vital powers to adapt themselves, with the utmost composure, to an atmosphere so rarefied and so rapidly reached; and it is as difficult as important to restrain the ardor of the newly arrived from basking, with too much exercise, in a sunlit atmosphere so novel, illumined, champagne. To “pitch in,” American-like, is a constitutional extravagance not tolerated to consumptives by Colorado. And yet when after watching, coaxing and administering, not only the climate but the medication required, as physical tolerance and strength progress, the amount of fatigue and exposure upon which a patient flourishes is often surprising. A young man doomed to die on every scientific principle ten months ago, asked me in August why it was that he

could lay out in the rain of the mountains every night, and get up soaked but hungry for breakfast every morning. It is therefore at least suggestible, that, in commending patients to Colorado, it may be more important to consult the constitutional impression, the powers of endurance and recuperation still left, rather than the mapped stethoscopic divisions of pulmonary consumption.

It is a grave mistake for patients to come to Colorado in search of health, with pockets lined with medical prescriptions from home-physicians for their own judgment in application. The physicians resident are just as cultivated and reliable as if they had never left the East! It is doubtless a graver mistake to "throw physic to the dogs" with an insensate determination to trust everything to Colorado weather or to hope for nothing. To assist the beneficence of the atmospheric abundance, it is not unreasonable that the system should be aided as much as possible for the reception of its benefits. In order that the climate may have its opportunity, the channels of destruction must be blocked by diet and medication. The leading irritative and debilitating attendants upon consumption and their well established medicinal treatment, need hardly be recapitulated here. It is certain however that drugs are the best friends a sick person can have—when "*placed where they will do the most good.*" Hæmorrhage, diarrhoea, night-sweats (needing but little attention in Colorado, because of the physiological logic of altitude), fevers—these recognize the necessity of control. But these are not all. In the language of Dr. Bennet, of London and Mentone—"there are many stumbling-blocks in the path of consumptive invalids; many conditions of disordered functional activity which render the most hygienic treatment nugatory and which physic has the power to negative and remove. Such as disordered conditions of stomach, liver and intestines; morbid states of innervation, cerebral and spinal; uterine, vesical, rectal complications, functional or local; all of which are more or less under the influence of medicine and surgery." All our therapeutic resources are often sufficiently powerless.

The fever of phthisis with its morning remissions and evening exacerbations—so destructive of strength, of tissue and of weight, I cannot regard as pathognomonic of the disease, as Niemeyer does. Even with their very “fits of shivering which come on regularly every evening in many cases of phthisis and which sometimes actually amount to rigors,” these come under natural laws, not specific. They present no different characteristics from fevers attendant upon pelvic or femoral abscess; from those of phlegmonous inflammation anywhere; from those of purulent absorption from wounds or amputations. The significance of fevers in consumption is magnified only by their protracted recurrence and the importance of the organs involved. Nor can I think “confinement in bed” the most appropriate therapeusis; but with nourishing diet and gentle stimulants during the morning remissions—with quinine and digitalis if necessary—the fanning of an afternoon Colorado drive and a temperate bath on return, every day—these are the remedies addressing themselves to the instincts of the patient and the experience of the physician.

The free and frequent use of baths is not only indicated by the immense importance of attention to the functions of the skin; by an altitude unfavorable to insensible transpiration, and where sensible perspiration is rarely felt even in the hottest days of our summers; but by the suggestiveness of nature itself in its exquisite provision for their enjoyments and benefits, in the chrystal offerings by Colorado of its medicated springs, picturesque lakes and its rivulets as pure as the mountain-snow that feeds them. All over the territory, at from four to ten thousand feet above the level of the sea, at points accessible and provided with appropriate accommodations, are flowing waters of health—springs hot and cold, saline and alkaline, chalybeate and sulphurous. The simple medicine of water, so indicated and provided, offers its aid to atmosphere; and the chemistry of nature, appreciated as health-giving in the forever, and never successfully imitated by art, presents itself most generously for the use of physicians at Caribou,

at Idaho Springs, at Cañon City, at the wondrous fall and natural bath in Middle Park, and at various other points. It is my sincere conviction that the atmospheric phenomena of Colorado cannot be the success, in a long line of disease, which they ought to be, without the assistance of its waters, pure and medicated. In the city of Mexico, with its two thousand feet more rarefied altitude than Denver, while tubercular consumption is not unknown, it is rare, and its victims seem to live as long as if they had it not; but almost every square of that city is provided with cleanly and inviting bathing arrangements of pure water, and universal is the participation of the inhabitants in their enjoyment and benefits. In the management of a disease so protracted, pertinacious and constantly exacting as consumption—in which the sthenic outline of practice needs filling up every day, by suggestions here and there, of diet, exercise and medication—in a large majority of cases the intelligent use of the bath can be neglected with as little propriety as any other adjuvant of medicinal or climatic beneficence.

It will have been observed that in this paper discussion of pulmonary pathology has been, it is thought, carefully avoided. Its plan and purpose have aimed to be but illustrative of the *rationale* of the remedial relations of Colorado to consumption, for which it has achieved such extensive and notorious repute; and, in some measure at least, to serve as some sort of a guide to the profession elsewhere in their investigation of the probable effects of a change of locality upon their patients; to accept the fact that there is a diathesis of climatic, as well as of physical-human nature; and that in many cases Colorado is adjusted remarkably to requirements of the most dread disease of humanity. While within the scope assigned for what it was proposed to offer, it was deemed professionally important to make brief, and respectful, reference to the investigations of the most modern enthusiastic histologists, it has been a matter of congratulation that their conclusions are therapeutic tributes to the philosophy of the treatment of con-

sumption deduced from clinical observation and represented by the climatic and material idiosyncracies of Colorado; and that, thus, scientific research and experience are both indorsers of the induction of Bennet's, that "the great fact to which I have to testify is, that pulmonary consumption is a curable disease—indeed, in its early stages often a very curable disease under sthenic or restorative treatment."

There is certainly a suggestiveness of a solution of some difficulties which have attended the consideration of phthisis pulmonum as exclusively tubercular, in a recognition of its dual origin and nature.

The ascription of tubercular specificism, while efficiently precluding admission of any other origin than that of transmission, has never rendered satisfactorily comprehensible those cases of "quick" or "galloping consumption" from "taking cold," cases of frequent intelligent and ordinary observation—occurring too, oftentimes, in individuals without suspicion of hereditary predisposition. Nor has it been more successful in accounting for the occasional death from consumption of persons of fine physical development, large chested, prize-fighters even, and beyond the age usually selected for its victims, and without phthisical family antecedents. To a more accurate comprehension of such cases we are invited by the labors of Virchow, Bérard, Cornil, Niemeyer, and their busy co-investigators.

The signs rendered by percussion and auscultation are often obscure or deceitful in the early and more certainly remediable stages of consumption, and are not, I think, as authoritative of the doom of a patient as they have for many years been considered under the local, tubercular regime.

Hæmorrhage from the lungs is not always significant of the presence of tubercle, or an indicative precursor of phthisis. Mostly of purely bronchial origin, in cases in which it gives the first note of alarm and where auscultation and percussion reveal noth-

ing, its dangerous expression can only be in the direction indicated by recent investigations or by antecedent sufficiently determinative pulmonary destruction.

Functional and organic derangements of the chylo-poietic viscera, often the factors and surely the abettors of pulmonary congestion and its consequences—disguising the presence and progress of pneumonic consumption and betraying the patient into a determined refusal to admit any fear of its existence—these exact most skillful and patient attention.

To cases of hereditary suspicion ; to those of early recognition of the existence of consumption, and to those marked by chronic, indolent progress of malassimilation, debility and waste—whether consequential of diathesis or inheritance, or neither, and whether represented by evidences of interstitial deposit or degeneration, of tubercular or of pneumonic inception—the attributes of the exceptional clime of Colorado plainly address themselves.

While treating of pulmonary maladies, ASTHMATICS would probably think themselves slighted, if all reference to their hard cases was omitted. But no reason can be found for many words. In Colorado, uncomplicated asthma notoriously and almost constantly, and often immediately, gets the hang of the Arab trick of silent tent-folding ! Nay, I have seen those, sufferers most anguishing at home, who parted with every vestige of the disorder on the rails crossing the plains to Denver. While some cases are slower in yielding than others, of the intractable there appear to be none, if adjusted properly to altitude. The contributions of asthmatics to the exchequer of local physicians are small indeed.

This paper is respectfully submitted with the ambition only of the consideration to which it is entitled, that of a mere contribution to practical medicine in a department of leading importance and interest, and to be followed, it is expected, by others of more extended and analytic merit from the same pen or that of some other more capable of handling the subject.

WEATHER REPORT.

Not without interest to physicians and students of climatology in other sections will be found the following report of Colorado weather for the four years last past. It is from the "Daily Rocky Mountain News" of January 3, 1874, accurately noted and compiled by its editor, W. N. BYERS.

"At Denver, in December, there were twenty-eight and a half hours of snowy weather, on the second and third, eleventh and and nineteenth days of the month. The total measurement of snow was six and three-fourths inches, and of water sixty hundredths of an inch. The highest temperature at the hour of seven o'clock a. m. was on the first— 48° ; the lowest at that hour on the fifth— 7° below zero, and the mean 13.3° above. The highest at the hour of two p. m. was on the first— 57° ; the next highest on the thirty-first— 55° ; the lowest on the third 8° , and the mean 30° above zero. The highest at the hour of nine p. m. was on the thirty-first— 49° ; the lowest on the fourth— 1° , and the mean 20.5° above zero. The mean for the month, three observations each day, was 21.3° above zero. It was an unusually cold month—a very low and uniform range of temperature. Light winds from the south and southwest prevailed and there were but eight cloudy days.

Compared with former years the record is as follows :

	Highest.	Lowest.	Mean.	Rain.
Dec. 1870.....	60°	18°	23.0	.73
Dec. 1871.....	55°	2°	31.3°	.77
Dec. 1872.....	60°	8°	28.0	.32
Dec. 1873.....	57°	7°	21.3°	.60

The following is a synopsis of the weather report for four years:

DATE.	TEMPERATURE.			RAIN AND MELTED SNOW.
	Highest.	Lowest.	Mean.	
January, 1870.....	60°	5°	29.4°	1.15 in.
February, ".....	64	1	33.5	1.70
March, ".....	67	8	32.7	.70
April, ".....	80	16	48.1	2.80
May, ".....	86	40	56.1	.35
June, ".....	94	48	68.2	.52
July, ".....	98	53	74.2	.51
August, ".....	97	45	64.8	.12
September, ".....	89	40	60.1	2.85
October, ".....	83	27	47.8	.68
November, ".....	68	20	41.8	.54
December, ".....	60	-18	23.	.73
January, 1871.....	67	6	34.5	.46
February, ".....	66	13	38.5	.23
March, ".....	67	10	46.	1.81
April, ".....	80	25	50.1	1.01
May, ".....	86	42	65.2	2.56
June, ".....	97	56	74.9	.05
July, ".....	97	58	78.	.51
August, ".....	95	54	75.2	.27
September, ".....	86	45	66.5	1.18
October, ".....	85	24	53.5	.40
November, ".....	70	0	36.	3.10
December, ".....	55	-2	31.3	.77
January, 1872.....	58	-26	22.7	.84
February, ".....	64	-9	34.7	.29
March, ".....	78	4	39.4	2.44
April, ".....	83	25	49.	2.38
May, ".....	89	35	61.3	3.21
June, ".....	97	49	69.	1.58
July, ".....	93	54	71.	2.42
August, ".....	94	52	72.	1.71
September, ".....	90	35	62.	1.47
October, ".....	88	19	53.6	1.30
November, ".....	69	-5	35.8	.81
December, ".....	60	-8	28	.32
January, 1873.....	62	-22	31.	.14
February, ".....	62	6	33.1	.24
March, ".....	79	16	48.6	.17
April, ".....	82	12	44.	2.08
May, ".....	86	35	58.9	.70
June, ".....	93	57	72.	2.29
July, ".....	94	53	72.3	1.70
August, ".....	92	60	72.	1.40
September, ".....	86	32	60.3	.87
October, ".....	83	6	45.9	.70
November, ".....	70	2	41.2	.16
December, ".....	57	7	21.3	.60

THE YEARS COMPARED.

1870	98°	-18°	48.3	12.65
1871	97°	-2°	54.1	12.35
1872	97°	-26°	49.3	18.77
1873	94°	7°	50.1	11.05

